

AMENDMENT UNDER 37 C.F.R. § 1.116  
Application No.: 10/630,751  
Atty Docket No.: Q71391

### **AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

#### **LISTING OF CLAIMS:**

Claim 1. (currently amended): A magnetic recording medium having a nonmagnetic substrate on which is provided at least a soft magnetic under-film, an orientation control film that controls an orientation of a film directly above, a perpendicular magnetic recording film having an axis of easy magnetization oriented to be mainly perpendicular to the substrate, and a protective film, wherein the orientation control film is an alloy containing at least Cr and C, wherein the film that is directly above is the perpendicular magnetic recording film and is in direct contact with the orientation control layer.

Claim 2. (original): The magnetic recording medium according to claim 1, wherein the orientation control film has a C content that is not less than 10 at% and not more than 80 at%.

Claim 3. (original): The magnetic recording medium according to claim 1, wherein the orientation control film has a C content that is not less than 30 at% and not more than 70 at%.

Claim 4. (original): The magnetic recording medium according to claim 1, wherein the orientation control film has a Cr content that is not less than 3 at% and not more than 80 at%.

Claim 5. (original): The magnetic recording medium according to claim 1, wherein the orientation control film has a thickness that is not less than 0.5 nm and not more than 20 nm.

Claim 6. (original): The magnetic recording medium according to claim 2, wherein the orientation control film has a thickness that is not less than 0.5 nm and not more than 20 nm.

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Claim 7. (original): The magnetic recording medium according to claim 1, wherein the perpendicular magnetic recording film is formed of a material containing at least Co and Pt.

Claim 8. (original): The magnetic recording medium according to claim 2, wherein the perpendicular magnetic recording film is formed of a material containing at least Co and Pt.

Claim 9. (previously presented): A method of manufacturing the magnetic recording medium according to claim 1, comprising carrying out, in order, at least a step of forming a soft magnetic under-film on a nonmagnetic substrate, a step of forming an orientation control film that controls an orientation of a film directly above, a step of forming a perpendicular magnetic recording film having an axis of easy magnetization oriented to be mainly perpendicular to the substrate, and a step of forming a protective film.

Claim 10. (previously presented): A method of manufacturing the magnetic recording medium according to claim 2, comprising carrying out, in order, at least a step of forming a soft magnetic under-film on a nonmagnetic substrate, a step of forming an orientation control film that controls an orientation of a film directly above, a step of forming a perpendicular magnetic recording film having an axis of easy magnetization oriented to be mainly perpendicular to the substrate, and a step of forming a protective film.

Claim 11. (original): A magnetic recording and reproduction apparatus comprising the magnetic recording medium according to claim 1 and a magnetic head that records and reproduces information on the magnetic recording medium, wherein the magnetic head is a magnetic monopole head.

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Claim 12. (original): A magnetic recording and reproduction apparatus comprising the magnetic recording medium according to claim 2 and a magnetic head that records and reproduces information on the magnetic recording medium, wherein the magnetic head is a magnetic monopole head.